

**TENTH CONGRESS
OF
American College of Surgeons
MONTREAL**

October 12th, 13th, 14th, 15th, 1920

CATALOGUE OF EXHIBITS

from

**The Canadian Medical War
Museum**

with

ANNOUNCEMENT OF EXHIBITS

from:

**The International Association of Medical
Museums,**

**The Pathological Museum and Laboratory and
The Medical Library of McGill University,**

and the

Montreal General and Royal Victoria Hospitals.

Presented at

THE MEDICAL SCHOOL, MCGILL UNIVERSITY.

The Congress of the American College of Surgeons is greatly indebted to the Acting Director General of Medical Services in Canada and to the Officer in charge of the Medical War Museum at Ottawa, to the Curator and Staffs of the Canadian Medical War Museum and Medical Museum of McGill University, and to the various Exhibitors under the different sections of the collection, for the attractive exhibition here presented, which forms a unique and most interesting feature of the program.

GEO. E. ARMSTRONG,

President.

Montreal, October 11th, 1920.

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FOREWORD.

In the Canadian Medical War Museum Exhibit the attention of members of the Congress is especially directed to Major L. J. Rhea's beautiful collection of Bone Specimens of War Injuries, which were prepared by himself, with the help of X-ray plates taken during life and in consultation with the Surgeon in Charge, and which elicited the liveliest interest and the enthusiastic appreciation of the entire Board of Surgical Consultants in France; also to the splendid exhibits presented by Major E. F. Ridsden and Major C. W. Waldron, and by Major F. B. Gurd; and to the sample copies of reproductions of pictures showing Army Medical Arrangements in France, selected for distribution among the Army Medical Teaching Centres of Canada, by Major G. A. Campbell.

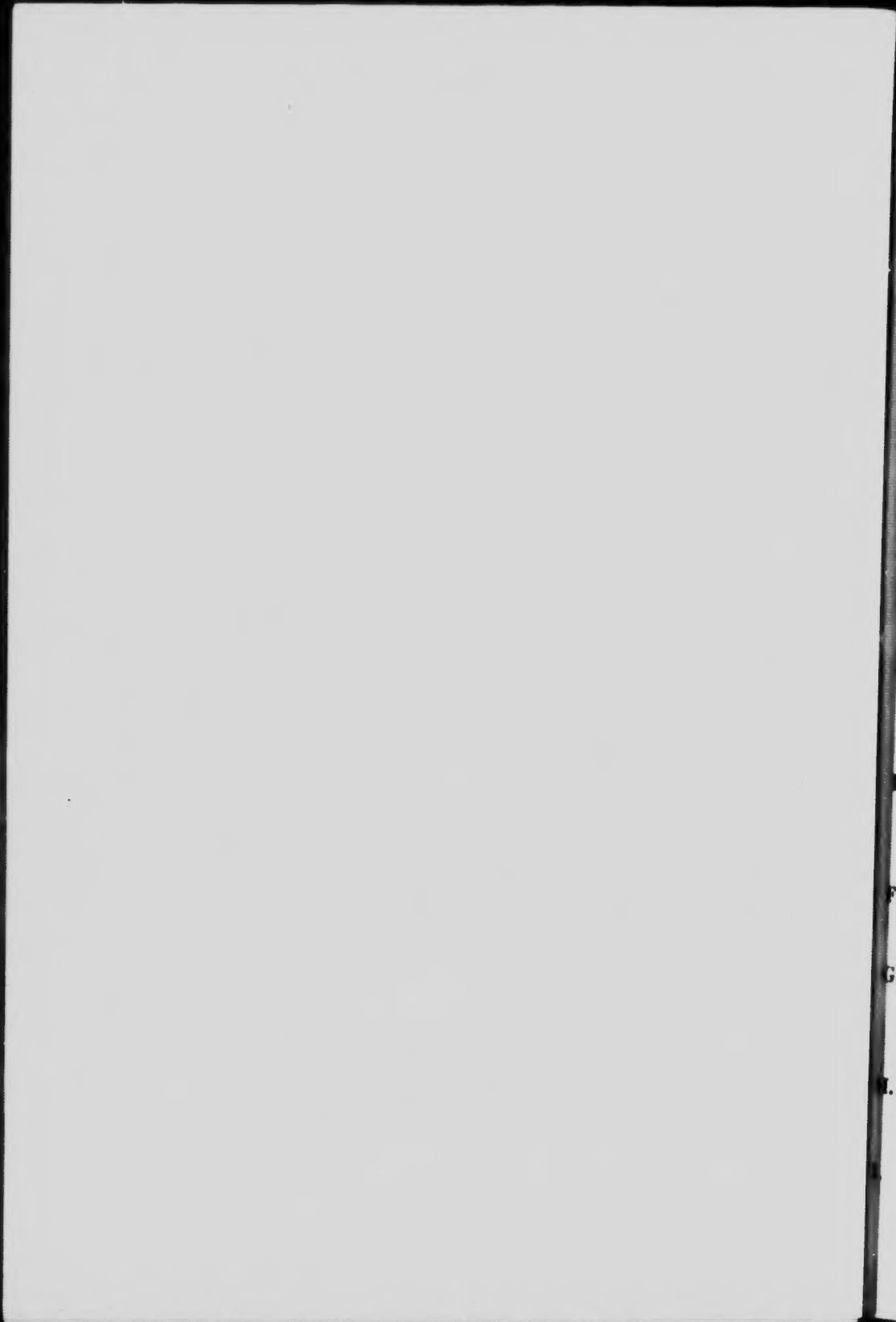
Among the other exhibits attention is drawn to the great Pathological Collections of the late Sir William Osler, made during the early formative years of his life as pathologist to the Montreal General Hospital, which mark him as a path-finder in this subject, and represent, as it were, the foundation stones of his later career. This collection is thus one of the greatest assets which the Medical Faculty of McGill holds of its historic past.

Of great interest further are the original embryological researches upon the origin and etiology of cancer and allied problems, presented by Professor A. Peyron of the Pasteur Institute.

An oil-painting presenting a sympathetic interpretation of the late Lt.-Col. John McCrae's poem, "In Flanders Fields," by the distinguished artist, Mr. Charles de Belle, is shown with the War Exhibit. It has been given by him, on the occasion of this Congress, to McGill University, and is deeply appreciated.

Copies of the Osler Memorial Number of the Journal of the Canadian Medical Association are to be had in the Museum, and at the registration-desk of the Congress at the Windsor Hotel.

The Museum is open from 9 a.m. to 5 p.m. and from 8 p.m. to 10 p.m.



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Part I.

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DESCRIPTIVE CATALOGUE

OF THE

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**CANADIAN MEDICAL WAR MUSEUM
EXHIBIT**

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Tenth Congress of American College of Surgeons

Montreal, October 12, 13, 14, 15, 1920.

CATALOGUE AND ANNOUNCEMENT OF EXHIBITS

Part I.

DESCRIPTIVE CATALOGUE OF EXHIBITS

FROM THE

CANADIAN MEDICAL WAR MUSEUM

Assembly Hall, New Medical Building.

Presented by permission of **GENERAL G. L. FOSTER, C.B.**, Acting Director
General of the Army Medical Services.

Arranged by **MAUDE E. ABBOTT, M.D.**, Curator; **E. L. JUDAH**, Preparator
and **Miss I. M. ROY**, Secretary.

Assisted by **J. GIROUX** and **J. R. LOCKHART**

SECTION A.

SERIES OF PATHOLOGICAL SPECIMENS SHOWING BONE INJURIES IN WAR AND PROCESSES OF REPAIR.

Exhibit by Major L. J. Rhea.

Note:—This series is of great surgical as well as pathological interest in that it contains a number of specimens of bone showing very beautifully destructive and reparative processes, which were prepared in France and which were extensively used during the war both for Army Medical teaching within the war zone, and for demonstration to the Board of Consultants. These specimens also formed at a later period one of the features of the Imperial Army Medical War Exhibit which was held at the Royal College of Surgeons in June, 1918.

As the method of technique used in the preparation of these specimens was found to be sufficiently simple for daily application in the Field, it

will be of practical interest to many surgeons. The following account is therefore quoted verbatim from the Army files:—

Method used and described by Major Rhea, C.A.M.C., Pathologist, No. 3 Canadian General Hospital, Boulogne, B.E.F., France, for the

Preparation of Macerated Bones,

particular emphasis being laid on the Importance of Clinical History, and detailed description of Gross Fresh Specimens.

Gross Specimens:

1. Dissected with the Officer in charge Surgery, so that Surgical aspect may be presented.
2. Careful notes and drawings showing position of fragments. So important to mount specimens with fragments in same position as at time of operation. Otherwise the difficulties of the surgeon may not be appreciated. X-ray plates are also useful.

Macerating Process:

3. (a) Remove most of flesh, being careful not to disturb callus.
- (b) Cover with tap water in vessel that will not rust, as rust will stain specimens. Each specimen should have separate jar. Do not wrap specimens in gauze.
- (c) Incubate about 33° C.
- (d) Correct with KOH each morning to distinct alkaline.
- (e) Change water when needed—every two or three days.
- (f) Skim off fat each morning.
- (g) When all flesh is removed by bacterial digestion, boil specimens carefully in alkaline soap and water for 15 to 20 minutes. Then carefully scrub with soft brush and soap. Where young callus is present, use soft tooth-brush.
- (h) Dry in sun or before stove—when drying do not place too near stove, as fissure fractures open out.
- (i) Remove remaining fat by gasoline—24 hours for two or three changes. When in gasoline do not allow bones to rest on bottom of vessel.
- (j) From last gasoline immerse specimens in boiling water for 15 to 20 minutes.
- (k) Dry specimens.
- (l) Bleach in sun or H_2O_2 . The latter may be used over and over, if kept tightly closed.
- (m) Dry specimens in sunlight or before a fire.
- (n) Mounting.

Articles and Materials Required for Mounting.

4. Drills, assorted sizes.

Brass wire, assorted sizes (do not use copper, steel or iron).

Pinchers, rounded points.

Heavy scissors for cutting wire.

Wire springs, assorted sizes.

Drills may be made from ladies' hat-pins or straight surgical needles. By means of stone, two cutting edges may be made on ends of drills. Drills may be mounted by means of wooden or metal plugs, in one end of a pull-through weight. If the other end is passed over the pinion of a hand centrifuge, a satisfactory drill is obtained.

Pinchers may be obtained from any ironmonger's shop.

Wire Springs of assorted sizes may be made by winding wire about any straight round metal wire and forging the numerous coils close together before removing spring.

In most instances each wire that is used to hold fragments in position, should pass through a wire spring.

These are essential when detached fragments are to be held in any given fixed position.

DESCRIPTION OF SPECIMENS.

(a) Major Rhea's Collection.

- No. 1. Gunshot Wound of Elbow Joint.** Gutter fracture of external margin of head of radius with fissure fractures across articular surface and down the anterior and posterior surfaces of shaft with loss of substance, and display of cancellous bone, streptococcal infection of knee joint.

From a case of multiple wounds. Death followed streptococcal infection of right knee joint following injury.

Note:—That the fissure fractures do not communicate; there is no evidence of repair. W.O.C. 2950.

- No. 2. Gunshot Wound of Hip Joint.**

Wounded at Passchendaele. Through and through gunshot wound of right groin and right buttock. Four days in shell hole. Heavily infected with B. Coli and Streptococci. Abscess in soft tissues about the hip joint. Death from sepsis four months after injury.

Note:—Compound comminuted fracture of head, neck and trochanters; extensive and irregular fragmentation of bone, septic erosion, callus formation, union of some of the fragments. Fracture of the right half of the pelvis. W.O.C. 2967.

(The innominate bone and the head of femur are mounted separately and labelled 2¹ and 2².)

No. 3. Accidental Fracture of Femur involving Hip-Joint.

Fell 60 feet into quarry at night losing consciousness. Compound comminuted fracture of neck and shaft of right femur with fracture of ribs, rupture of spleen and haemothorax-haemoperitoneum. Multiple contusions. Death one day after.

Note:—Complete transverse fracture of middle third of shaft. Intracapsular fracture of neck and extensive fissuring involving entire cortex of bone. W.O.C. 2959.

No. 4. Fracture of Upper End of Tibia, not Compound.

Injured in Railway Accident. A fragment of upper end of tibia perforated popliteal artery, extensive hemorrhage in soft tissues. Amputation on account of Gangrene. Recovery.

Note:—Extensive fracture with backward displacement. Old fracture—dislocation of superior tibio-fibular joint with formation of a false joint. W.O.C. 2957.

No. 5. Through and Through Gunshot Wound of Left Fibula with Comminuted Fracture.

Infection of surrounding tissues and knee joint with gas forming bacteria. Hemorrhages between muscles. Amputation and recovery.

Note:—Complete comminuted fracture of upper third of left fibula, with loss of substance. No callus formation. Tibia is intact. W.O.C. 2965.

No. 6. Compound Fracture of Right Knee Joint, due to Shell Wound, followed by Infection and Amputation.

Multiple shell wounds of right knee, left knee and upper arm incurred at Ypres. Infection of right joint and surrounding tissue by strepto-pyogenes. Hemorrhage and amputation 18 days after. Recovery.

Note:—Compound fracture of external condyle of right femur and patella. Erosion of articular surfaces of femur and tibia. Callus formation. W.O.C. 2945.

No. 7. Through and Through Gunshot Wound of Lower Third of Left Femur with Infection and Non-union.

Through and through gunshot wound of lower third of left thigh. Acute pyogenic infection of wound and knee joint. Non-union. Amputation seven weeks after. Recovery.

Note:—Compound comminuted fracture of lower third of left femur with erosion of condyles and patella and callus formation. W.O.C. 2963.

No. 8. Shell Wound of Left Femur with Infection of Wound and Knee Joint.

Shell fragment wound of left thigh. Suprapatellar cavity and knee joint infected by streptococcus. Amputation and recovery.

Note:—Oblique fracture of lower part of left femur. Ape ture lined by cancellous tissue. W.O.C. 2949.

No. 9. Shell Wound of Left Fibula and Tibio-Fibular Joint with Infection and Erosion.

Through and through shell wound of left thigh and left leg with streptococcal infection of wounds and knee-joint, and septicaemia. Amputation on 22nd day after injury. Recovery.

Note:—Compound comminuted fracture of upper third of fibula, involving tibio-fibular joint. Erosion of articular surfaces. The infection of the knee joint was secondary to infection in the tibio-fibular joint. W.O.C. 2944.

No. 10. Shrapnel Wound of Right Tibia and Fibula with Multiple Comminuted Fractures and Loss of Substance.

Injury followed by gas gangrene. Amputation 4 days after. Recovery.

Note:—Portion of inferior articular surface missing. W.O.C. 2936.

No. 11. Fracture and Displacement of Upper Part of Left Tibia.

Accidental compound comminuted fracture of upper end of left tibia. Thrombosis of popliteal artery, streptococcus infection of wound and knee-joint. Gangrene of leg. Streptococcus septicaemia. Death seven days after injury.

Note:—Extensive fracture and displacement of upper extremity of left tibia. W.O.C. 2958.

No. 12. Gunshot Wound of Right Femur with Hemorrhage and Infection.

Through and through gunshot wound with compound comminuted fracture of lower third of right femur. Streptococcus infection of soft tissues and knee-joint. Perforation of popliteal artery by fragment of bone. Extensive hemorrhage necessitating amputation. Recovered.

Note:—Extensive loss of bony tissue, callus formation, several detached fragments of bone, one of which a sharp pointed triangular piece has perforated the popliteal artery. Fissure fractures into the knee joint, extensive bony erosion of articular surface. W.O.C. 2952.

No. 13. Shell Wound of Lateral Condyle of Left Femur, with Joint Infection.

Shell wound of popliteal surface, lateral aspect of the lateral condyle of left femur, patella and extra capsular tissue. Streptococcal suppurative arthritis with erosion of cartilages and of articular surface of knee joint. Amputation. Recovery.

Note:—Loss of bony tissue from the lateral condyle of left femur and patella. Erosion of articular surfaces of joint. W.O.C. 2954.

No. 14. Shrapnel Wound of Left Femur with Comminuted Fracture and Loss of Substance.

Through and through shrapnel wound of left thigh from behind forwards. Slight infection. Shrapnel ball taken from front of thigh. Death. Streptococcal meningitis from wound of occipital region of skull.

Note:—Through and through wound of upper third of left femur with multiple comminuted fracture. Fissuring, separation of fragments, and loss of substance. W.O.C. 2951.

No. 15. Gunshot Wound of Right Femur with Fracture, Infection and Hemorrhage.

Gunshot wound of upper third of right femur with comminuted fracture and fragmentation followed by infection of wounds and secondary hemorrhage from femoral artery. Died eight days later.

Note:—Pte. E. T., aged 35. Extensive comminution and fissuring of shaft of femur. Two extremities of femur united only by bridge of cortex. Much loss of substance. No callus. W.O.C. 2948.

No. 16. Fracture of the Middle of the Fifth Metatarsal Bone.

Multiple shrapnel wounds. Gas gangrene of the foot necessitating amputation. Recovery.

Note:—Fracture of the middle of the fifth metatarsal bone of the left foot with displacement of fragments, loss of substance and fissuring. W.O.C. 2978.

No. 17. Bullet Wound of Left Femur with Fracture, Hemorrhage and Infection.

Through and through bullet wound of upper third of left femur with compound fracture. Numerous hemorrhages, mild infection—amputation—death one week later. Septicæmia.

Note:—Compound oblique fracture of shaft of left femur with loss of wedge-shaped fragment on medial surface. Little displacement, comminution, or callus formation. W.O.C. 2970.

No. 18. Shell Wound and Compound Comminuted Fracture of Right Femur with Infection.

Lay three days in shell hole after wound. Bilateral trench feet. Shell wound of middle of right thigh with compound comminuted fracture. Secondary hemorrhage from femoral artery. Infection by streptococci and septicæmia. Death 42 days after.

Note:—Shell wound and compound comminuted fracture of shaft of right femur. Erosion and callus formation along fracture lines. W.O.C. 2953.

No. 19. Shrapnel Wound of Right Femur with Hemorrhage. Amputation.

Through and through shrapnel wound of right thigh with compound comminuted fracture of lower third of right femur. Hemorrhage from popliteal artery and acute cellulitis of thigh. Empyema of right pleural cavity. Amputation of thigh and recovery.

Note:—Compound comminuted fracture of lower third of right femur with extensive fragmentation and perforation of shaft. Some callus formation. W.O.C. 2956.

No. 20. Accidental Comminuted Fracture of Bones of Left Face and Orbit.

Accidentally shot at close range with very light pistol. Penetrating wound of left malar region, connecting with cranial cavity. Left eye collapsed. Subdural hemorrhage. Piece of wad and metal ring in brain at end of trail. Death within an hour.

Note:—Multiple fracture of left facial bones. Comminuted fracture of orbital bones and loss of part of sphenoid, and fracture of temporal and zygomatic bones. W. O.C. 2960.

No. 21. Through and Through Bullet Wound of Manubrium of Sternum with Suppurative Mediastinitis.

Through and through bullet wound of anterior chest and of manubrium of sternum. Thoracic cavity not penetrated. Acute suppurative mediastinitis. Died of broncho-pneumonia 10 days after wound.

Note:—Compound comminuted fracture of manubrium with extensive loss of substance. Twelve small pieces only remain mostly from posterior surface. Normal sternum for comparison. W.O.C. 2955.

No. 22. Left Temporal Bone Cured for Acute Mastoiditis with Meningitis following.

Acute mastoiditis after five weeks discharge from left ear. Fever and streptococcal septicæmia. Clot in lateral sinus. Mastoid process curetted away. Meningeal involvement and death fourteen days after operation.

Note:—Conical shaped bone sinus extending to root of middle ear. Part of wall of left lateral sinus and mastoid process removed. Necrosis. W.O.C. 2961.

No. 23. Fracture and Loss of Substance of Posterior Aspect of Head of Left Humerus with Missile in Position.

Multiple shrapnel wounds. Left scapula also involved. Death from septicæmia. No callus formation. W.O.C. 2967.

No. 24. Gunshot Wound of Anterior Part of Right Knee Joint, followed by Infection and Erosion of Surfaces.

Gunshot wound of right knee with much loss of bony tissue and erosion of condylar surfaces of femur and tibia. Partial separation of anterior portion of medial condyle. Erosion of articular surface and loss of medial border of patella. No callus formation. W.O.C. 2943.

No. 25. Compound Comminuted Fracture of Lower Two Thirds of Left Fibula and of Lower Third of Tibia.

Multiple shrapnel wounds. Acute purulent meningitis, streptococcic. Death nine days after injury. Fracture also of left femur. (See Specimen No. 15.)

Note:—Extensively shattered fibula with many fragments missing. Lower two-thirds including malleolar extremity involved. Fracture of distal extremity and articular surface of the tibia. No callus formation. W.O.C. 2951.

No. 26. Compound Comminuted Fracture of Carpal and Metacarpal Bones of Left Hand and Styloid Process of Ulna.

Compound comminuted fracture of small bones of carpus, with fracture of proximal extremities of 2nd, 3rd, 4th and 5th metacarpal bones of left hand. Fragmentation and loss of substance. Fracture of styloid process of ulna. No callus formation. W.O.C. 2972.

No. 27. Fracture of Head and Shaft of Femur Showing Rarefaction of Bone.

Three small fragments only. No callus. W.O.C. 2979.

No. 28. Compound Comminuted Fracture of Tarsal Bones of Left Foot.

Shell wound of sole of left foot with compound comminuted fracture of cuneiform bones, navicular and proximal extremity of shaft of second metatarsal. Fracture involves sustentaculum tali and distal extremity of calcaneus. Missile in situ. No callus. E. 351.

No. 29. Fracture and Loss of Small Portion of Medial Condyle of Right Femur and also of Medial Border of Patella.

No repair. W.O.C. 2980.

No. 30. Direct Fracture of Middle of Shafts of Left Radius and Ulna.

Loss of triangular portion of shaft of ulna. No callus formation. W.O.C. 2981.

No. 31. Greenstick Fracture of Upper Third of Shaft of Right Radius.

Fissures on Posterior aspect. W.O.C. 2973.

No. 32. Multiple Shrapnel Wounds and Death from General Septicæmia, Left Ulna and Radius with Fracture of Lower Half of the Shaft of Radius.

Compound fracture of the lower half of the shaft of the radius into three fragments. Fracture lines straight and oblique. No callus formation.

No. 33. Compound Comminuted Fracture of Upper Third of Left Humerus.

Note:—Horizontal fracture line of shaft immediately below greater and lesser tubercles. Vertical and spiral fracture lines with loss of small fragment of cortex, 1.5 cm x 1 cm, slightly above the deltoid tuberosity. E. 323.

No. 34. Compound Comminuted Fractures of Middle and Lower Third of Shaft of Right Femur.

Seven small fragments of cortex from 5-20 cm in length. One small triangular fragment missing on lateral aspect. W.O.C. 2953.

No. 35. Shrapnel Wound Lower Thigh, Necessitating Amputation.

Tetanus developed—690,000 units anti-tetanic given. Recovery. Second amputation of stump.

Note:—Demarcation of sequestrum, absorption of sequestrum and callus formation. E. 323.

No. 36. Compound Comminuted Fracture of Upper Fourth of the Shaft and Part of Head of Right Fibula.

Spiral lines of fracture with loss of 3-4 cm of shaft. Tibia not involved. No signs of repair. W.O.C. 2980.

No. 37. Shell Wound of Right Shoulder with Compound Comminuted Fracture of the Middle of the Spine of Right Scapula.

Separation of medial angle and loss of bony tissue bounding supra spinous fossa. No callus. W.O.C. 2981.

No. 38. Perforating Shrapnel Wound of Parietal Bone of Skull with Forcing in of Inner Table.

Ball impossible to remove owing to complications. Fissure fractures in three directions.

Small penetrating wound right side of head. Paralysis of left arm. X-ray showed shrapnel ball. Excisions of portion of skull with shrapnel ball. Movements in right began within 12 hours. Complete in 5 days. Recovered. The small piece of skull driven in by missile pressed upon brain but did not penetrate pia. Note blood clot and hair attached, also stellate fracture in the detached piece of skull. E. 263.

No. 39. Multiple Shrapnel Wounds—Septicæmia Death.

Extensive compound comminuted fracture of the left scapula involving the base of spinous process and both supra and infra spinous fossae.

Note:—Extensive line of fissures and also loss of bone at inferior angle. No attempt at repair. W.O.C. 2967.

No. 40. Head of left Tibia, Missile Wound.

No. 41. Reamputation Stump from Femur, separation of sequestum, large ring of callus above line of demarcation running up on posterior aspect.

No. 42. Complete Comminuted Fracture of Lower Ends of Shafts of Right Tibia and Fibula, with splintering into fragments and extensive loss of substance of tibia. No healing.

(b) All Other Bone Collections.

No. 43. Right Shoulder Joint, Showing Results of Infection and Attempted Repair.

Complete erosion of articular cortex suggesting fluid pressure within the joint; callus formation at the margins of the articular surfaces in the area of the attachment of articular ligament. W.O.C. 3612c.

No. 44. Upper Extremity of Right Humerus in Missile Lesion, Involving Shoulder Joint, Showing:

- (1) A compound comminuted fracture with great loss of bone.
(2) An abundant callus formation re-uniting the fragments; several small eburnated sequestra at the angles of fragments.

Note:—Absence of erosion of articular cortex. W.O.C. 3577.

No. 45. Upper End of Left Humerus Showing a Shrapnel Wound with Fracture and Loss of Tissue of the Articular Surface.
W.O.C. 3574.

No. 46. Left Knee Joint and Upper End of Leg Bones Showing Results of Septic Arthritis of Knee, and Beginning Sequestration of Angular Border of Lower End of Tibia and Fibula (Old Amputation Stump).

(a) Extensive erosion of articular cortex of joint but with irregular patches left intact, no evidence of repair. (b) A previous amputation of tibia and fibula through the middle third, with beginning sequestration (of the angular borders); callus in thin plates extending from the line of demarcation.

Note:—That sequestration of lateral angle of fibula, and medial angle of tibia is greatest, showing the devitalizing effects of pressure from soft tissues on these prominences. W.O.C. 3584.

No. 47. Right Knee Joint Showing Result of Infection in Early Stage of Repair:—

(a) Extensive and deep erosion of articular cortex including femoro-patellar articulation; (b) Small outgrowths of callus at the margin of the joint limited to the femur. W.O.C. 3564.

No. 48. Right Knee Joint in Missile Lesion Showing:—

Fracture of femur and tibia with extensive destruction and loss of tissue with subsequent infection and early stage of repair process.

Note:—Many fissure fractures into the joint, all being more or less re-united by callus. W.O.C. 3580.

No. 49. Left Knee Joint, Illustrating:—

A wound by a missile which penetrates the head of the tibia, causing a comminuted fracture which involves the joint, and leaving impacted fragments of cortex within the spongy bone. Also a fracture of upper end of fibula involving tibio-fibular joint.

Note:—(1) The out-swelling of the fragmented cortex opposite the entrance wound. (2) The larger fragments are at the periphery of the area affected by the missile. (3) The general oblique direction of the fracture lines which are more extensive opposite the entrance wound. W.O.C. 3586.

No. 50. Right Tibia and Fibula Showing:—

Comminuted fracture of the head of tibia, and loss of tissue involving the articular surface. The large fragments indicate a low velocity of the missile causing the fracture. W.O.C. 3572.

No. 51. Right Knee Joint Showing Fracture and Loss of Tissue of the Antero-Lateral Aspect of the Head of Tibia, Involving the Articular Surface. W.O.C. 3581.

No. 52. Right Knee Joint in Shell-Wound of Femur Involving the Joint. Rarefying Osteitis.

Note:—Great loss of tissue of outer condyle from curettage of wound, and several fissure fractures into the adjacent part of diaphysis; the separation along the epiphyseal line is partly due to maceration. A darker area within the lesion due to oxidation of fragment of shell which lay impacted in the bone. Note also that patella escaped injury.

Shell wound in back and knee with marked comminution of outer condyle of latter. Particles were removed, knee joint washed out and Bipped. Died from spinal complications. W.O.C. 3468.

No. 53. Left Ankle Joint. Missile Fracture of Lower End of Tibia and Fibula with Involvement of Tibio-Fibular-Astragaloid Joint, Showing:—

(1) Results of infection, (a) sinus through end of tibia originating in a fracture—separation, with erosion and cavitation of this, also lesser sinuses adjacent, and erosion of articular surfaces; (b) separation of tibio-fibular joint by infection.

(2) Repair, callus formation of sub-periosteal origin completely surrounding the tibia and uniting the fragments of this and of the fibula with these bones and with each other

Note:—The flattened appearance of the new bone covering the inner surface of the tibia, evidencing the semi-fluid state of young callus.

No. 54. Right Knee Joint Illustrating Results of Septic Arthritis.

Erosion of articular cortex in pressure areas; rarefaction of cortex in neighborhood of the infection; very early outgrowths of callus diffused about the margins of the joint.

Note:—Separation of epiphyses due to maceration of young bone. W.O.C. 3573.

No. 55. Right Lower Half of Femur and Knee Joint, Illustrating:

Result of missile wound causing fracture and great loss of tissue of shaft, especially on the anterior surface, and the effects of infection in the fracture area and of the knee joint cavity.

Note:—(1) Fissure fractures extending downward to reach the joint cavity, by which path the joint may have been infected; (2) erosion of the angular edges of both fragments, the great pitting and ill-defined attempts at sequestration on the lower fragment; (3) relatively small amount of callus on the lower fragment.

In the joint cavity the deep and extensive erosion of the femoro-patellar articulation, while the rest of the cortex is only eroded in spots—this may have its explanation in the proximity of the femoro-patellar joint to the main area of infection, or on the other hand the derangement of the soft tissues by the wound may have caused additional pressure on the patella or have reduced its blood supply. W.O.C. 3581.

No. 56. Missile Wound with Great Loss of Substance of Lower Third of Left Femur. Infection with Attempt at Repair. Infection of Knee Joint.

Note:—**Anteriorly.** (1) The absence of a part of the shaft, the shattered fragments having been lost; (2) a V-shaped fissure fracture extending into the area of the joint capsule—this may have been the path of infection into the joint; (3) in the joint extensive erosion of cortex especially in areas of bony contact; (4) very early callus at the margins of the femoro-patellar articulation; (5) pitting and rarefaction of sequestra at upper angle of lower extremity; (6) the rarefaction of the callus on the medial aspect of lower fragment. **Posteriorly** on the upper fragment, a detached fragment showing erosion and rarefaction, also that it is held and joined by a mass of callus, while adjacent to it a small sequestrum is seen avoided by callus and not eroded or rarefied; (It is probable that the eroded fragment still retained some blood supply through the periosteum)—a pus-cavity is suggested in the recesses of the upper combination of fragments. W.O.C. 3521A.

No. 57. Fracture of Upper End of Femur with Separation of Great Trochanter and Involvement of Joint.

Erosion of articular surface of head of bone. Callus formation limited to a small area on outer surface of great trochanter just below line of fracture. W.O.C. 4023.

No. 58. Multiple Comminuted Fracture of Upper Extremity of Femur.

Marked fragmentation of trochanter and splintering of this and of the upper end of shaft. No evidence of repair and apparently no involvement of joint. W.O.C. 4024.

No. 59. Lower Two-Thirds of Femur Removed by Amputation before Healing had Commenced.

There is a linear fracture of the shaft completely encircling the bone with comminution but no displacement of fragments, and no loss of substance. W.O.C. 3604.

No. 60. Left Femur Showing Fracture of Middle Third of Left Femur with Malunion and Extensive Callus and Sequestrum Formation.

The fragments are re-united in malposition by three bridges of callus chiefly associated with the anterior surfaces. The upper fragment shows the typical "cock-up" displacement, i.e., backward rotation and abduction.

Note:—The **posterior** aspect of the fracture shows rounded edges and erosion by infection and an interval between the fragments suggests the pressure of a pus cavity. There is partial occlusion of the medullary canal, but very limited growth of callus around broken surfaces.

Laterally is seen a very large sequestrum containing a fissure fracture—two lines of demarcation are seen, one above the other, suggesting that this has occurred in two stages.

Medially there is seen exuberant callus growth showing irregular perforations and spicules, and a small angular sequestrum. W.O.C. 3570.

No. 61. Fracture of the Middle Third of Left Femur.

Re-union of fragments in slight mal-position by two main bands of callus separated by a rounded canal and an adjacent cavity. The shape of the canal suggests that the probable cause was a thick rubber drainage tube kept in this position.

Note:—Relatively slight angularity of fragments and the absence of small fragments are associated with very little tendency to sequestrum formation. A long fissure fracture is seen. E. 374.

No. 62. A Comminuted Fracture of Shaft of Left Femur due to a Machine Gun Bullet with Great Fragmentation and Loss of Tissue, showing the Effects of Infection and Marked Evidence of Repair.

Pus from the wound contained streptococci and patient's condition became bad; hemorrhage from wound, profunda femoris ligated, blood transfusion done, and femur re-fractured while on operation table. Gangrene developed, rapid decline, death.

The anterior surface presents a very large angular cavity nearly enclosed by fragments which are joined and cemented together by a mass of callus which is more abundant medially in the region of slackened tension.

The posterior surface shows many detached fragments united by callus outgrowth, while sequestra of angular extremities are avoided by it.

Note:—(1) Rotation of a fragment and apparent widening of lower portion of the shaft; (2) fissure fractures most common in areas where cortex is becoming thin; (3) well marked sequestra at the lateral angles of both the larger fragments where pressure on soft parts would be greatest; (4) cavity in internal condyle associated with application of Steinman's nail; (5) erosion and rounding of the edges of the fragments due to infection. W.O.C. 3522.

No. 63. Fracture of Middle Third of Tibia and Fibula with Great Loss of Substance on Posterior Aspect of Tibia.

Evidence of healing, plates of callus and beginning sequestrum formation in both bones. There is a second lesion at the lower end of the tibia, loss of substance with fissure fractures. It shows very little evidence of repair.

Note:—Complete fracture through lower third of radius breaking its shaft into three fragments. The middle one of these is displaced towards the ulna and mounted in this position. W.O.C. 3602.

Re-Amputation Stumps of Femur Showing Infection and Process of Repair, Sequestrum Formation (Callus above Line of Demarcation of Necrosed Bone).

No. 64. Re-Amputation Stump of Femur, showing rarefying osteitis of lower end and medullary cavity, rounding of borders, denudation of cortex on inner surface, and a little callus posteriorly. No zone of callus is seen, but the area of inflammatory reaction is clearly indicated by alteration in colour. W.O.C. 3513.

- No. 65.** Illustrates well the process of development of stump. Lower surface is rounded by erosion of angles and zone of callus has formed close to the extremity of the bone. The cavity of the medulla is occluded by callus. W.O.C. 3351.
- No. 66. Re-Amputation Stump of Similar Character to the Last,** but with more extensive callus formation extending up the posterior border of the shaft, evidencing severe infection. There is rounding of the lower borders and indication of beginning formation of a line of demarcation below a ring of callus which surrounds the edge of the stump. Medullary cavity is not occluded. W.O.C. 3612.
- No. 67. A sequestrum has formed at the end of the stump.** The line of demarcation is half an inch wide. The ring of callus above it is very slight, more marked posteriorly. W.O.C. 3579.
- No. 68. Shows advanced sequestrum formation.** Lower inch of bone eburnated in parts, in others denuded of cortex. Heavy zone of callus above, projecting widely posteriorly. W.O.C. 3506.
- No. 69. A small portion of lower end of amputation stump** completely surrounded by callus which is most abundant posteriorly and invades the medullary cavity, leaving only a small lumen. W.O.C. 3517.
- No. 70. Stump showing complete separation of a sequestrum** on its lower end which remains in situ, being still held there by the newly formed callus tissue within its medulla.
Note:—The jagged upper edges of the sequestrum approximating to those of the upper fragments and irregular zone of callus above the lower, also lack of rounding of lower edges of sequestrum (absence of process of repair). W.O.C. 3511.
- No. 71. Sequestrum from re-amputation stump of Femur** which has undergone complete separation.
Note:—The extent of the necrosed bone on the inner surface lining the medulla. W.O.C. 36. 379.
- No. 72. Fracture of Bone of Leg.**
 Through and through gun shot wound with compound comminuted fracture of posterior aspect of upper third of shaft of left tibia and fracture of middle of shaft of fibula with much loss of bone.
Note:—Smaller aperture on medial and larger on lateral aspect of tibial shaft. Two fissures extending on either side of crest to head of tibia. Extensive fragmentation. One quarter of shaft of fibula missing. No callus. W.O.C. 3474.

No. 73. Calvarium.

Perforation at posterior border of left parietal bone enlarged by trephine. No fracturing of neighbourhood.

Shell wound of head and left face, fracturing skull and injuring occipital lobe. Cerebral meningitis and encephalitis. W.O.C. 3547.

No. 74 and 75. Two Calvaria Showing:

Large perforation similar to above without fracturing of adjacent bone.

(a) Opening in occipital bone, enlarged by trephine. Fissure fracture of frontal. W.O.C. 3600.

(b) Opening in right parietal bone enlarged by bone forceps. No history. W.O.C. 3509.

No. 76. Base of Skull. Erosion and Perforation of Petrous Portion of Temporal Bone.

In a case of acute otitis media with perforation through attic, and thrombosis of lateral sinus by direct infection through the perforation. W.O.C. 3594.

No. 77. Calvarium.

Chipping with fissuring of outer table of frontal bone above right temple made by a sharp instrument. Depressed fracture with loss of substance of corresponding area of inner table. No history. W.O.C. 3598.

No. 78. Calvarium.

Large perforation with extensive fracture of adjacent portions of right surface of frontal bone, and fissure fracture extending back through parietals.

Case of compound comminuted fracture of skull with laceration of brain followed by brain abscess in right frontal pole. Bullet track was from the perforation to left side of left lobe near the anterior pole. Generalized meningitis of vertex. W.O.C. 3548.

No. 79. Calvarium.

Multiple wounds of cranial vault with large perforation apparently increased in size by trephine, and two areas of depressed fracture, the larger of which shows well the features of depressed fracture with splintering of the inner table of the skull. In a fourth area a piece of shrapnel is seen in the outer table. All the lesions are in the frontal bone.

Brain from same case is preserved in the collection.
See also femur, (No. 56.) W.O.C. 3604.

No. 80. Calvarium.

Oblong shell wound aperture at anterior margin of right parietal bone of skull. No fissuring or callus formation. W.O.C. 3500a.

No. 81. Calvarium.

Shrapnel wound with large triangular aperture (6 x 5 cm) of right parietal bone of skull. No fissuring and no repair. W.O.C. 3597.

No. 82. Calvarium.

Depression wounds and fracture of occipital bone in region of inferior nuchal line on left side. Triangular loss of inner table of skull just above depression for the transverse sinus. W.O.C. 3612.

No. 83. Part of Face and Base of Cranium Showing Bullet Wound in Spheno-Maxillary Fossa Entering Cranial Cavity.

W.O.C. 3584.

No. 84. Compound Fracture of Spine in a case of multiple shell wounds of back, right knee and head of femur (See specimen No. 49). Portion of shrapnel seen in situ in spinal cavity.

Note.—Extensive comminution of transverse processes and arches of 5th and 6th dorsal vertebrae with loss of substance. Also that the lamellar process of 5th and spine of 6th have been removed at operation. W.O.C. 3468.

No. 85. Lumbo-sacral Vertebrae showing fracture of transverse process and arch of last lumbar with great loss of substance. Fracture also of posterior tuberosity of ilium. W.O.C. 3576.

No. 86. Cervical Vertebrae.

Compound comminuted fracture of root of right vertebral arch of 6th and of left lamina of 7th cervical vertebrae. Rarefaction of bone and loss of substance without repair.

Note:—Fracture line extends to root of left vertebral arch of 6th cervical vertebrae. W.O.C. 3578.

No. 87. Fracture of Cervical Vertebrae. Missile in Situ.

Comminuted fracture of bodies of the 6th and 7th cervical vertebrae with loss of bone, and fracture of right lamina of 6th cervical vertebra. No repair. W.O.C. 3601.

No. 88. Compound Comminuted Fracture of laminae, spinous process, and of transverse process of one of upper thoracic vertebrae. . 2965.

SECTION B.

SERIES OF PATHOLOGICAL SPECIMENS SHOWING WAR INJURIES OF SOFT TISSUES.*

Exhibit by Major Fraser B. Gurd.

(a) Destructive Effects of Gun-Shot Wounds and Reparative Changes.

- No. 1. Gun-shot Wound of Brain, Lepto- and Pachy-meningitis. Laceration of Brain substance with hæmorrhages. W.O.C. 918.
- No. 2. Gun-shot Wound of Brain. Lepto- and Pachy-meningitis. Laceration and destruction of Brain substance. Hæmorrhage. W.O.C. 937.
- No. 3. Gun-shot Wound of Brain. Penetrating Wound, Projectile in Situ. W.O.C. 2194.
- No. 4. Gas Cysts, Brain. Bacillus Aerogenes Capsulatus Infection. W.O.C. 3489.
- No. 5. Gunshot Wound of Face. Perforating wound of Skull. Laceration of Brain, Pachymeningitis Externa. W.O.C. 2420.
- No. 6. Traumatic Hæmorrhage of Brain. Bacillus Aerogenes Infection. W.O.C. 1256.
- No. 7. Brain. Acute Suppurative Meningitis (Staphylococcus Aureus). W.O.C. 2021.
- No. 8. Special Cord. Meningitis, Acute Hæmorrhagic (Staphylococcus Pyogenes Aureus. W.O.C. 2021.
- No. 9. Gun-shot Wound of Spinal Cord. Laceration of Cauda. W.O.C. 1483.
- No. 10. Gun-shot Wound of Spinal Cord. Laceration of Cauda. Localized Meningitis. W.O.C. 1830.
- No. 11. Gun-shot Wound of Spinal Cord. Softening of the Cord. W.O.C. 2283.
- No. 12. Gun-shot Wound of Spinal Cord. Transverse Myelitis. Foreign Body in Situ. W.O.C. 2284.

* A detailed descriptive catalogue of these specimens accompanies the exhibit.

- No. 13.** Gun-shot Wound of Spinal Cord. Transverse Myelitis, incomplete. W.O.C. 2344.
- No. 14.** Gun-shot Wound of Spinal Cord. Transverse Myelitis. W.O.C. 2532.
- No. 15.** Gun-shot Wound of Spinal Cord. Transverse Myelitis. W.O.C. 3323.
- No. 16.** Gun-shot Wound of Spine and Spinal Cord. Perforating Wound of Cord. W.O.C. 1350.
- No. 17.** Gun-shot Wound of Spine. Fracture, Spinal Lamina. Laceration of Cord. Acute Suppurative Spinal Meningitis. W.O.C. 1386.
- No. 18.** Gun-shot Wound of Spine. W.O.C. 1633.
- No. 19.** Gun-shot Wound of Spine. Transverse Myelitis. W.O.C. 2346.
- No. 20.** Gun-shot Wound of Eye-ball. Interstitial Keratitis, Hypopyon. W.O.C. 1474.
- No. 21.** Gun-shot Wound of Lung. Missile in Situ. Collapsed Lung, consequent upon Suppurative Pleuritis. W.O.C. 2202.
- No. 22.** Gun-shot Wound of Lung, Pyothorax, Atelectasis Pulmoni. W.O.C. 2820.
- No. 23.** Gun-shot Wound of Lung and Stomach, and portion of Diaphragm. Collapse of Lung, Fibrinous Pleuritis. (Three specimens mounted in separate jars.) W.O.C. 2552.
- No. 24.** Gun-shot Wound of Stomach, perforating. W.O.C. 2408.
- No. 25.** Gun-shot Wound of Abdomen. Wounds of Left Diaphragm, Stomach, Liver and Left Kidney. Gastric Blood Clot, Hæmorrhage into Meso-colon. Peritonitis, Lesser Sac. Fat Necrosis. (Mounted in four jars.)

A very important specimen. It consists of the diaphragm and abdominal viscera from the upper half of the abdomen from a case dying on the 4th day of a gun-shot wound (bullet) which entered over the junction of the 6th and 7th left costal cartilages, and made its exit in the back 5 cm. to the left of mid line at the level of the 12th rib. Specimen is in 4 parts. Section 1 includes the left lateral border of the abdominal viscera with attached diaphragm. On the inner surface of the diaphragm is seen the site of injury. The great omentum is closely plastered over the surface of the viscera in the left upper quadrant of the abdomen.

On the surface of the stomach there is a small amount of plastic exudate and blood clot. Over the surface of the great omentum are seen numerous pale opaque areas (fat necrosis). Upon the cut surface of section 1 the stomach is seen to be completely filled with blood clot, between the layers of the gastro-colic omentum there is also a large blood clot. The transverse colon also contains a small amount of granular blood. The lesser peritoneal cavity is filled with a granular purulent exudate. The fat about the gastric end of the stomach and about the pancreas shows numerous areas of fat necrosis. The pancreas is greyish in colour and is apparently the site of a suppurative process. The spleen is negative. The kidney, which is perforated by the projectile, shows extensive hæmorrhage into its substance. The perirenal fatty capsule is also infiltrated with blood.

At autopsy a considerable amount of bloody fluid was found in the peritoneal cavity, and a moderate amount of lymph in flakes on the surface of the intestines here and there. The liver, stomach, spleen, left kidney and other structures were removed en masse for preservation.

The manner in which the great omentum has limited the extension of the infective processes in the greater cavity is striking.

Section 2 shows lesions similar to those present in section 1. In addition to the well-marked purulent peritonitis present in the lesser cavity, there is also evidence, to a moderate degree, of peritonitis over the organs of the great cavity.

In section 3 the duodenum appears also containing blood clot. Absence of peritonitis from the organs in sections 4 and 5 is striking. In section 5, an additional portion shows the turn of the duodenum. W.O.C. 1391.

- No. 26. Gun-shot Wound of Liver with Rupture. Extensive Laceration and Loss of Substance. W.O.C. 924.
- No. 27. Gun-shot Wound of Liver showing Wounds of Entry and Exit and Tract of Projectile through left Lobe of Liver. W.O.C. 926-b.
- No. 28. Gun-shot Wound of Liver. Subcapsular Hæmorrhage. W.O.C. 1260.
- No. 29. Gun-shot Wound of Liver, Through-and-Through Wound of Liver showing Entry and Exit with Subcapsular Hæmorrhage. W.C.C. 1276.
- No. 30. Gun-shot Wound of Liver, Rupture and Extensive Destruction of Tissue. W.O.C. 1279.
- No. 31. Gun-shot Wound of Liver, Left Lobe. W.O.C. 2200.

- No. 32.** Gun-shot Wound of Liver. W.O.C. 3590.
- No. 33.** Gas Gangrene, Liver, Metastatic. Foamy Liver. W.O.C. 39.
- No. 34.** Gas Gangrene (a) Liver, (b) Heart, (c) Spleen, Metastatic, Foamy. W.O.C. 3468.
- No. 35.** Gun-shot Wound of Liver. *Bacillus Aerogenes Capsulatus* (Focal) Infection. W.O.C. 1286.
- No. 36.** Gun-shot Wound of Kidney with Venous Thrombosis. W.O.C. 917.
- No. 37.** Gun-shot Wound of Kidney. W.O.C. 934.
- No. 38.** Gun-shot Wound of Kidney. W.O.C. 1285-b.
- No. 39.** Gun-shot Wound of Spleen. Laceration, recent clot. W.O.C. 926-a.
- No. 40.** Extensive Laceration of Spleen with Ploughing up of Substance and Rupture of Capsule. W.O.C. 1266.
- No. 41.** Gun-shot Wound of Spleen with Extensive Destruction of Substance and Laceration. W.O.C. 1267.
- No. 42.** Gun-shot Wound of Spleen, Projectile and Khaki Cloth in Abdomen for Five Weeks. W.O.C. 2399.
- No. 43.** Gun-shot Wound of Spleen. Acute Traumatic Splenitis and Splenic Infarct. W.O.C. 2408.
- No. 44.** Gun-shot Wound of Small Intestine. W.O.C. 927.
- No. 45.** Gun-shot Wound of Small Intestine. Multiple Perforations of Bowel, Lacerated Mesentery, Acute Peritonitis, Subperitoneal Haemorrhage. W.O.C. 928.
- No. 46.** Gun-shot Wound of Small Intestine, Multiple Perforations, Lacerations of Mesentery. Subperitoneal Haemorrhage. W.O.C. 929.
- No. 47.** Gun-shot Wound of Small Intestine. Multiple Perforations, Haemorrhage into Bowel, Acute Peritonitis. W.O.C. 930.
- No. 48.** Gun-shot Wound of Small Intestine. Perforations of Bowel with Inflammatory Gangrene in the vicinity of the Wounds. Haemorrhage into Mesentery and Subperitoneal Tissue. W.O.C. 1262.

- No. 49.** Gun-shot Wound of Small Intestine. Multiple Perforations, Acute Peritonitis, Lacerated Mesentery. W.O.C. 1263.
- No. 50.** Gun-shot Wound of Small Intestine. Perforations of Bowel. Acute Peritonitis. W.O.C. 1265.
- No. 51.** Gun-shot Wound of Small Intestine. Multiple Perforations. Acute Peritonitis. W.O.C. 1272.
- No. 52.** Gun-shot Wound of Small Intestine. Multiple Perforations. Herniation of Muscosa. W.O.C. 1264.
- No. 53.** Gun-shot Wound of Intestine. Perforation of Bowel. Sub-peritoneal Haemorrhage. Acute Peritonitis. W.O.C. 1271.
- No. 54.** Multiple Gun-shot Wounds of Mesentery and Small Bowel. Various Stages of Gangrene. Congestion. W.O.C. 1261.
- No. 55.** Gun-shot Wound of Bowel, Three Perforations, one Perforation stitched. Acute Peritonitis. Ecchymosis of Bowel. W.O.C. 931.
- No. 56.** Gun-shot Wound of Caecum. Perforation of Bowel. Laceration and Haemorrhage into Pericaecal Tissue. Acute Peritonitis. W.O.C. 1263.
- No. 57.** Intussusception (Herniation) of Alium into Caecum. W.O.C. 2518.
- No. 58.** Entero-enterostomy necessitated by Gun-shot Wound of Intestine. W.O.C. 1349.
- No. 59.** Compound Fracture of Femur. Chronic Osteitis and Periosteitis. Fixation by Scar Formation of Quadriceps Extensor to Femur. W.O.C. 1575.
- No. 60.** Gun-shot Wound of Knee Joint. Compound Fracture of Femur. W.O.C. 1448.
- No. 61.** Gun-shot Wound of Knee Joint; Suppurative Arthritis. W.O.C. 1324.
- No. 62.** Gun-shot Wound of Knee Joint; Suppurative Arthritis. W.O.C. 625.
- No. 63.** Gun-shot Wound of Knee Joint, Right. W.O.C. 2318.
- No. 64.** Gun-shot Wound of Left Knee Joint. W.O.C. 2834.

- No. 65.** Gun-shot Wound of Leg. Compound Fracture of Tibia and Fibula. Acute Suppurative Cellulitis and Osteitis (with Necrosis). Acute Suppurative Arthritis, Tibio-fibular Articulation and Ankle Joint. W.O.C. 911.
- No. 66.** Shell Wound of Leg. Traumatic Amputation of Foot, Severe Filth Contamination of Tissues. W.O.C. 558.
- No. 67.** Gun-shot Wound, Ankle Joint, Acute Suppurative Arthritis, Ankle Joint and Posterior Astragalo-Calcaneoid Joint.
- No. 68.** Granulating Stump of Thigh, Exfoliating Ring-Sequestrum. W.O.C. 3282.
- No. 69.** Amputation Stump, Excessive Callus Formation. W.O.C. 3510a.
- No. 70.** Gun-shot Wound of Muscle. W.O.C. 3621.
- No. 71.** Gas Gangrene of Muscle, Excised at Operation with Conservation of Limb. W.O.C. 3308.
- No. 72.** Gun-shot Wound of Forearm. Massive Gas Gangrene. W.O.C. 743.
- No. 73.** Gun-shot Wound of Thigh. Gas Gangrene Rectus and Crureus Muscles. W.O.C. 513.
- No. 74.** Gun-shot Wound of Leg. Massive Gas Gangrene. W.O.C. 2057a.
- No. 75.** Gun-shot Wound of Leg; Mixed Infection of Wound. W.O.C. 2057d.
- No. 76.** Gun-shot Wound of Leg. Perforating Wound, Tibia. Massive Gangrene of Muscle. W.O.C. 2059.
- No. 77.** Nerve, Neuroma, Terminal Proximal following section. W.O.C. 3820.
- No. 78.** Gun-shot Wound of Carotid Artery, showing Lacerated Wound of Artery. W.O.C. 1324.
- No. 79.** Gun-shot Wound of Carotid Artery and Jugular Vein. Arterio-venous Aneurysm. W.O.C. 1964.
- No. 80.** Gun-shot Wound of Scrotum. Acute Infective Orchitis. W.O.C. 3470.

(b) Effects of Poisonous and Irritative Gases on the Respiratory Tract.

- No. 81.** Gas Poisoning, Trachea. (Phosgene). W.O.C. 916.
- No. 82.** Gas poisoning, Lung. (Phosgene). Acute Emphysema and Distension of Lung due to Poisoning with Phosgene Gas. W.O.C. 938.
- No. 83.** Gas Poisoning, Lung. (Phosgene). W.O.C. 1490.
- No. 84.** Gas Poisoning, Lung, Larynx and Trachea. (Phosgene). Acute Emphysema with small areas of Oedema of the Lung due to Poisoning with Phosgene Gas. (Larynx and Trachea mounted in separate jar). W.O.C. 2263.
- No. 85.** Lung, Phosgene Gas Poisoning. (Irritant Gas?) Emphysema. Lobular Pneumonia. W.O.C. 2419.
- No. 86.** Trachea, Gas Poisoning (Mustard). Membranous Laryngitis and Tracheitis due to Gas Poisoning. W.O.C. 2087.
- No. 87.** Mustard Gas Poisoning. Fibrinous Bronchitis. Commencing Bronchiectasis. Peri-bronchial Pneumonia. W.O.C. 2080.
- No. 88.** Acute Ulcerative Tracheitis, Mustard Gas Poisoning. W.O.C. 2418.
- No. 89.** Bronchi, Mustard Gas Poisoning. Acute Membranous Bronchitis. W.O.C. 2305.
- No. 90.** Gassed Lung, (Mustard). Acute Membranous Bronchitis, Peribronchial Pneumonia, Acute Haemorrhagic Pleuritis. W.O.C. 2305.
- No. 91.** Mustard Gas Poisoning. Acute Membranous Tracheitis. W.O.C. 2895.
- No. 92.** Lung, Mustard Gas Poisoning. Acute Membranous Tracheitis, Acute Fibrinous Bronchitis, Broncho-pneumonia. W.O.C. 3194.
- No. 93.** Lungs and Trachea, Mustard Gas Poisoning. Acute Membranous Tracheitis. Acute Membranous Bronchitis, Bronchiectasis, Peri-bronchial Pneumonia. W.O.C. 3195.
- No. 94.** Trachea, Mustard Gas Poisoning. Acute Membranous Tracheitis. W.O.C. 3196.

- No. 95.** Bron. bus, Mustard Gas Poisoning. Acute Membranous Bronchitis. W.O.C. 3196.
- No. 96.** Lung, Mustard Gas Poisoning. Acute Membranous Bronchitis. Bronchiectasis. Peri-bronchial Pneumonia. Compensatory Emphysema. W.O.C. 3196
- No. 97.** Lung, Mustard Gas Poisoning. Bronchiectasis, Compensatory Emphysema, Broncho-pneumonia and Peri-bronchiolitis. W.O.C. 3197.
- No. 98.** Lungs, Mustard Gas Poisoning. Acute Membranous Bronchitis, Acute Membranous Tracheitis, Peri-bronchial Abscess Formation, Massive Abscess of Lung, Diffuse Broncho-pneumonia. Emphysema. W.O.C. 3199.
- No. 99.** Lung, Mustard Gas Poisoning. Acute Hemorrhagic Bronchitis. Acute Broncho-pneumonia (Red Consolidation.) W.O.C. 3200.
- No. 100.** Trachea, Mustard Gas Poisoning. Acute Hemorrhagic Tracheitis. W.O.C. 3200.
- No. 101.** Lungs, Mustard Gas Poisoning. Acute Fibrinous Bronchitis, Acute Bronchiectasis. W.O.C. 3201.
- No. 102.** Mustard Gas Poisoning, Bronchiectasis. W.O.C. 3201.
- No. 103.** Mustard Gas Poisoning, Bronchiectasis. Collapse of Lung. Broncho-pneumonia. Subacute Pleuritis. W.O.C. 3207.
- No. 104.** Trachea and Both Lungs, Mustard Gas Poisoning. W.O.C. 3463.
- No. 105.** Lungs and Trachea, Mustard Gas Poisoning. W.O.C. 3205.
- No. 106.** Lung, Chlorine Gas Poisoning. Emphysema. Oedema. Pecthial Hemorrhage. W.O.C. 1351.
- No. 107.** Kidney, Chlorine Gas Poisoning. Acute Nephritis. W.O.C. 10.

SECTION C.

WATER-COLOUR SKETCHES AND DRAWINGS OF (a) EYE-GROUNDS SHOWING TRAUMATIC (CONCUSSION) LESIONS OF FUNDUS, (b) EYE-GROUNDS IN DISEASE, (c) LARYNGEAL CONDITIONS.

Exhibited by Colonel S. H. McKee.

A. Eye-Grounds Showing Traumatic (Concussion) Lesions of Fundus.

No. 1. Four pictures showing:—

- (a) Rupture of choroid and displacement of pigment in injury by windage.
- (b) Exposed sclera and displaced pigment in right traumatic retinitis following upon g.s.w. and enucleation of left eye.
- (c) Choroiditis following g.s.w. of lower malar bone. Shrapnel removed from antrum nine days later.
- (d) Large rupture of choroid below macula and numerous areas of displaced pigment in g.s.w. of face.

No. 2. Six pictures showing:—

- (a) Extensive areas of traumatic choroiditis in g.s.w. of orbit. X-ray showed foreign body behind eye-ball.
- (b) Traumatic retino-choroiditis with displaced pigment.
- (c) Choroidal changes and multiple ruptures in non-penetrating g.s.w. of left eye.
- (d) Patch of choroiditis, concussion change.
- (e) Extensive rupture of choroid; vitreous opacities. Hit by piece of bone at outer canthus.
- (f) Diffuse haziness of vitreous with rupture of choroid and displaced pigment.

No. 3. Three water-colours and three black and white sketches showing:—

- (a) Multiple linear and transverse ruptures of choroid to temporal side of disc and large area of traumatic retino-choroiditis.
- (b) Intense optic neuritis of left eye, no cause found. Invalided with trench fever.
- (c) Enormous rupture of choroid with displaced pigment and intense opacities of vitreous. Hit by bullet at inner canthus, bullet still in antrum.
- (d) Large choroidal rupture. Concussion wound.
- (e) Large rupture with retino-choroiditis proliferans and displaced pigment. Externally eye uninjured.
- (f) Small rupture of choroid.

No. 4. Five black and white drawings showing:—

- (a) Choroiditis and opacities in vitreous. Gun-shot wound (Machine-gun) in foot. Tremendous windage in right side of head.
- (b) Macular and peri-papillary pigmented chorio-retinitis. Eye normal externally.
- (c) Definite hole at macula, and just above this, area of choroiditis. Bomb concussion.
- (d) Small rupture of choroid and inflammation. Pepper-like macula. Wound of head.
- (e) Alterations in macula and fundus. Vision failing since windage from a bomb.

No. 5. Traumatic Lesions associated with Retino-choroiditis Proliferans. Six pictures showing:—

- (a) Extensive ruptures in choiroid and fine dust-like opacities in vitreous. Non-penetrating shrapnel wound of lower eye-lid.
- (b) The same with marked proliferation. Bullet wound below.
- (c) With extensive rupture of choroid. Non-penetrating shrapnel wound.
- (d) Extensive choroiditis with displaced pigment and large hæmorrhages in vitreous.
- (e) Choroiditis proliferans of Lagrange (good example). **Penetrating** (the only one in the series). Gun-shot wound of left eye. Iridectomy. Good result.
- (f) Extensive rupture of choroid; proliferating quality well shown by its covering vessels at points; large displacement of pigment. Shrapnel wound of orbit.

B. Eye-Grounds in Disease.

No. 6. Four pictures showing:—

- (a) Congenital coloboma.
- (b) Macular choroiditis with displaced pigment.
- (c and d) Fundi of both eyes of same patient in blephare-conjunctivitis.

C. Throat Conditions.

No. 7. Two water-colour pictures, showing:—

- (a) Pedunculated polypoid growth of right tonsil, 3 figures showing (1) actual size, (2) Position in situ, (3) Histological structure (fibrous and fatty areolar tissue).
- (b) Oedema of larynx in g.s.w. of neck. Missile removed by tracheotomy.

SECTION E.

ORTHOPEDIC CASTS SHOWING TYPE DEFORMITIS DUE TO NERVE LESIONS,

Exhibit by Colonel C. L. Starr.

- No. 1.** Gun-shot Wound of right forearm and division of Ulnar Nerve,—loss of tip of middle finger due to previous accident.
- No. 2.** Combined Median and Ulnar Nerve Lesions.
- No. 3.** Drop Wrist, Musculo-spiral Lesion.
- No. 4.** Hypertrophic Pulmonary Osteo-atrophy associated with Bronchiectasis. X-Ray showed that new growth involved the shafts as well as the Extremities of Long Bones.
- No. 5.** Gun-shot Wound of Left Wrist and Ulnar Lesion.

PROSTHETIC APPLIANCES.

A Series of Six Artificial Legs.

Exhibit by Colonel C. L. Starr.

SECTION D.

DRAWINGS, WATER-COLOUR SKETCHES, WAX AND PLASTER MODELS SHOWING OPERATIVE PROCEDURES AND RESULTS OF PLASTIC SURGERY UPON WAR WOUNDS, ORAL AND FACIAL.

Exhibited by Major E. F. Ridsen and Major C. W. Waldron.

a. Facial Casts. (The work of Major Lessore.)

- No. 1.** Restoration (partial) of Chin.
- No. 2.** Gun-shot Wound Chin.
- No. 3.** Gun-shot Wound Nose.
- No. 4.** Restoration of Nasal Bridge with Cartilage.
- No. 5.** Final Plastic Restoration.
- No. 6.** Second Stage Plastic Restoration.
- No. 7.** Gun-shot Wound of Face.
- No. 8.** Gun-shot Wound of Face.
- No. 9.** Plastic Restoration, Cheek and Eye.
- No. 10.** Gun-shot Wound of Face.
- No. 11.** Plastic Restoration, Lower Eyelid.

- No. 12. Gun-shot Wound of Face.
- No. 13. Plastic Nasal Restoration.
- No. 14. Gun-shot Wound of Face.
- No. 15. Plastic Restoration.
- No. 16. Restoration, Final Stage.
- No. 17. Restoration, First Stage.
- No. 18. Gun-shot Wound of Face.
- No. 19. Restoration, Second Stage (final cast not taken).
- No. 20. First Stage.
- No. 21. Gun-shot Wound of Face.
- No. 22. Gun-shot Wound of Face.
- No. 23. Restoration following Bone-graft Mandible.
- No. 24. Gun-shot Wound of Face.
- Nos. 25 to 34. Types of Facial Injury, Gun-shot Wound.

b. **Drawings and Water-colour Sketches.**

SECTION E.

SERIES OF 1300 X-RAY LANTERN SLIDES, MOUNTED TOGETHER ON A SPECIAL FRAME, SHOWING PICTURES AND FOREIGN BODIES IN WAR INJURIES.

Exhibit by Major A. H. Pirie.

SECTION G.

SELECTION OF PICTURES FROM THE CANADIAN ARMY MEDICAL MUSEUM OTTAWA, SHOWING MEDICAL ARRANGEMENTS OF THE CANADIAN ARMY MEDICAL CORPS IN VARIOUS OVERSEAS AREAS OF THE GREAT WAR.* (MADE BY CAPT. P. G. MATHEWS AND OTHERS.)

Exhibit by Department of Militia and Defence.

2) Forward Areas.

1. Stretcher-bearers transporting wounded in the forward area.
Cat. No. 120
2. Group of four pictures of shelters used as Advanced Dressing Stations in the Somme and Vimy Areas, France.
Cat. No. 43

* Catalogue numbers quoted are from the Official Catalogue of pictures in the W. O. Collection.

3. Group of four pictures of Advanced Dressing Stations in the Ypres Area during the period of the advance on Passchendaele in October and November, 1917.

Cat. No. 41

4. Group of six pictures of Dressing Stations at Au Reitz in the Vimy Area, France.

Cat. No. 46

5. Group of four pictures of Regimental Aid Posts and one of a Dressing Station in the Vimy Area, France.

Cat. No. 45

6. Advanced Dressing Station at Spoilbank on the Ypres-Commines Canal, Ypres Salient, Belgium, 1916.

Cat. No. 133

7. Bedford House, Ypres Salient. The basement of this building was used as an Advanced Dressing Station by Canadian Field Ambulances in 1916.

Cat. No. 42

8. Removing Wounded from an Advanced Dressing Station.

Cat. No. 121

9. Ambulances and Motor Cars transporting wounded.

Cat. No. 122

10. Bird's eye view of No. 3 Canadian Casualty Clearing Station, Remy Siding, Ypres Area, Belgium.

Cat. No. 10

11. Bird's eye view of No. 2 Canadian Casualty Clearing Station, Remy Siding, Ypres Area, Belgium.

Cat. No. 35

12. Transport of wounded by (a) Hospital Train, (b) Hospital Barge.

Cat. No. 118

(2) Lines of Communication.

13. Picture of No. 1 Canadian Stationary Hospital, on Lembet Plain, outside Salonika, Greece.

14. Aeroplane photograph showing the location of No. 4 Canadian General Hospital (Toronto University) and No. 5 Canadian General Hospital (British Columbia), in an Hospital Encampment four miles from Salonika, Greece.

Cat. No. 37

15. Picture of No. 1 Canadian General Hospital, Étaples, France.
Cat. No. 31
16. Tent Ward, No. 1, Canadian General Hospital, Étaples, France.
Cat. No. 30
17. Picture of a Bombed Hut Hospital at Étaples, France.
18. Bird's-eye view of No. 3 Canadian General Hospital (McGill University), Boulogne, France.
19. Bird's eye view of No. 2 Canadian General Hospital, Le Treport, France.
Cat. No. 48
20. Picture showing position of No. 1 Canadian General Hospital, Étaples, France.
Cat. No. 36
21. Picture of No. 2 Canadian Stationary Hospital, at Outreau, Boulogne Area, France, 1916-19.
Cat. No. 19
22. Picture of No. 2 Canadian Stationary Hospital, at Le Touquet, Étaples Area, France, 1914-15.
Cat. No. 29
23. Water Transport.
Cat. No. 119
24. Sketches of No. 8 Canadian General Hospital, St. Cloud, France.
Cat. No. 24
25. Sketches at No. 8 Canadian General Hospital, St. Cloud, France.
Cat. No. 25

(3) Hospitals in England.

26. Pictures of buildings used for Hospital purposes on Salisbury Plain, 1914-15, including Bulford Manor, East Lavington Manor, Ablington House.
Cat. No. 8
27. Five pictures of buildings used for Medical purposes on Salisbury Plain, 1914-15.
Cat. No. 36
28. Picture of the first Canadian Convalescent Hospital. Canadian Convalescent Hospital, Bromley, Kent.
Cat. No. 7

29. Picture of the Canadian Convalescent Hospital at Monks Horton,
Kent. (Two views.)
Cat. No. 3
30. Picture of the Queen's Canadian Military Hospital, Beechboro
Park, Shorncliffe.
Cat. No. 11
31. Bird's-eye view of No. 16 Canadian General Hospital (Ontario),
Orpington, Kent.
Cat. No. 127
32. Picture of No. 12 Canadian General Hospital, Bramshott, Hants.
Cat. No. 128
33. Bird's-eye view of the buildings at Basingstoke occupied as a
General Hospital by No. 4 Canadian General Hospital (To-
ronto University), on its return from Salonika, Greece.
Cat. No. 126
34. Bird's-eye view of No. 15 Canadian General Hospital (Duchess of
Connaught's Canadian Red Cross Hospital), Taplow.
Cat. No. 28
35. Bird's-eye view of No. 11 Canadian General Hospital, Moore
Barracks, Shorncliffe.
Cat. No. 5
36. Picture of No. 13 Canadian General Hospital, Hastings (Formerly
No. 1 Canadian Stationary Hospital, converted into a General
Hospital on its return from the Mediterranean).
Cat. No. 17
37. Bird's eye view of the Princess Patricia Canadian Red Cross
Hospital at Cooden Beach, Bexhill, Sussex.
Cat. No. 12
38. Canadian Convalescent Hospital, Epsom.
Cat. No. 14
39. Buildings occupied as a General Hospital by No. 5 Canadian
Hospital by No. 5 Canadian General Hospital (British Colum-
bia) at Kirkdale, Liverpool, on its return from Salonika, Greece.
Cat. No. 20
40. Two views of the Canadian Convalescent Hospital at Bearwood,
Wokingham.
Cat. No. 22

41. Picture of the Granville Canadian Special Hospital, Ramsgate.
Cat. No. 9
42. Picture of Chatham House, Ramsgate.
Cat. No. 34
43. King's Canadian Special Red Cross Hospital, Upper Lodge,
Bushey Park.
Cat. No. 4
44. Picture of West Cliffe Canadian Eye and Ear Hospital, Folkestone.
Cat. No. 15
45. Bird's-eye view of the Canadian Convalescent Hospital, Hillingdon
House, Uxbridge.
Cat. No. 13
46. Picture of the Princess Patricia Canadian Special Red Cross
Hospital, Ramsgate.
Cat. No. 1
47. Picture of the Canadian Officers' Hospital, Yarrow House, Broad-
stairs, Kent.
Cat. No. 2
48. Picture of Canadian Red Cross Special Hospital, Buxton.
Cat. No. 23
49. Group of pictures of Granville Canadian Special Hospital at
Buxton.
Cat. No. 27
50. Pictures of Hospital Buildings at Buxton.
Cat. No. 16
51. Canadian Convalescent Officers' Hospital, Matlock Bath.
Cat. No. 14, 52
52. Kensington and Grosvenor Garden Pathological Laboratory.

**(b) SAMPLE COPIES OF PHOTOGRAPHIC REPRODUCTIONS OF
THE ABOVE FOR DISTRIBUTION TO CANADIAN UNI-
VERSITIES AND ARMY MEDICAL UNITS.**

Exhibited by Major G. A. Campbell.

- 53.** Loose-leaf copy containing 33 of the above pictures and reproductions of paintings of war injuries.
- 54.** Bound copy containing the entire set for distribution.

SECTION H.

CAPTURED GERMAN APPARATUS, ETC.

Exhibited by Capt. L. P. MacHaffie.

- 1.** Portable Oxygen Apparatus for resuscitation purposes.
- 2.** The German Army Protective Apparatus. Worn by those entering the presence of Mine Gas or obnoxious or asphyxiating Gases, of any sort; where gases are such as to irritate face and eye goggles worn. (See No. 3.)
- 3.** Descriptive Treatise on Army Protective Apparatus with translation.
- 4.** German Gas Mask used when wounded in the head.
- 5.** German Gas Mask.
- 5a.** British Gas Mask.
- 6.** Paper Bandages.
 - (1) Roller Bandages.
 - (2) Crepe Bandages.
- 7.** Paper (Triangular) Bandages.
- 8.** Paper Shrouds.
- 9.** Cotton Substitute (paper).
- 10.** Trousers worn by Prisoners of War in Germany (part paper).
- 11.** Paper Boots with Wooden Soles. Worn by Prisoners of War in Germany.
- 12.** German Roller Bandages. Made from lace Curtain (Lille and Valenciennes).

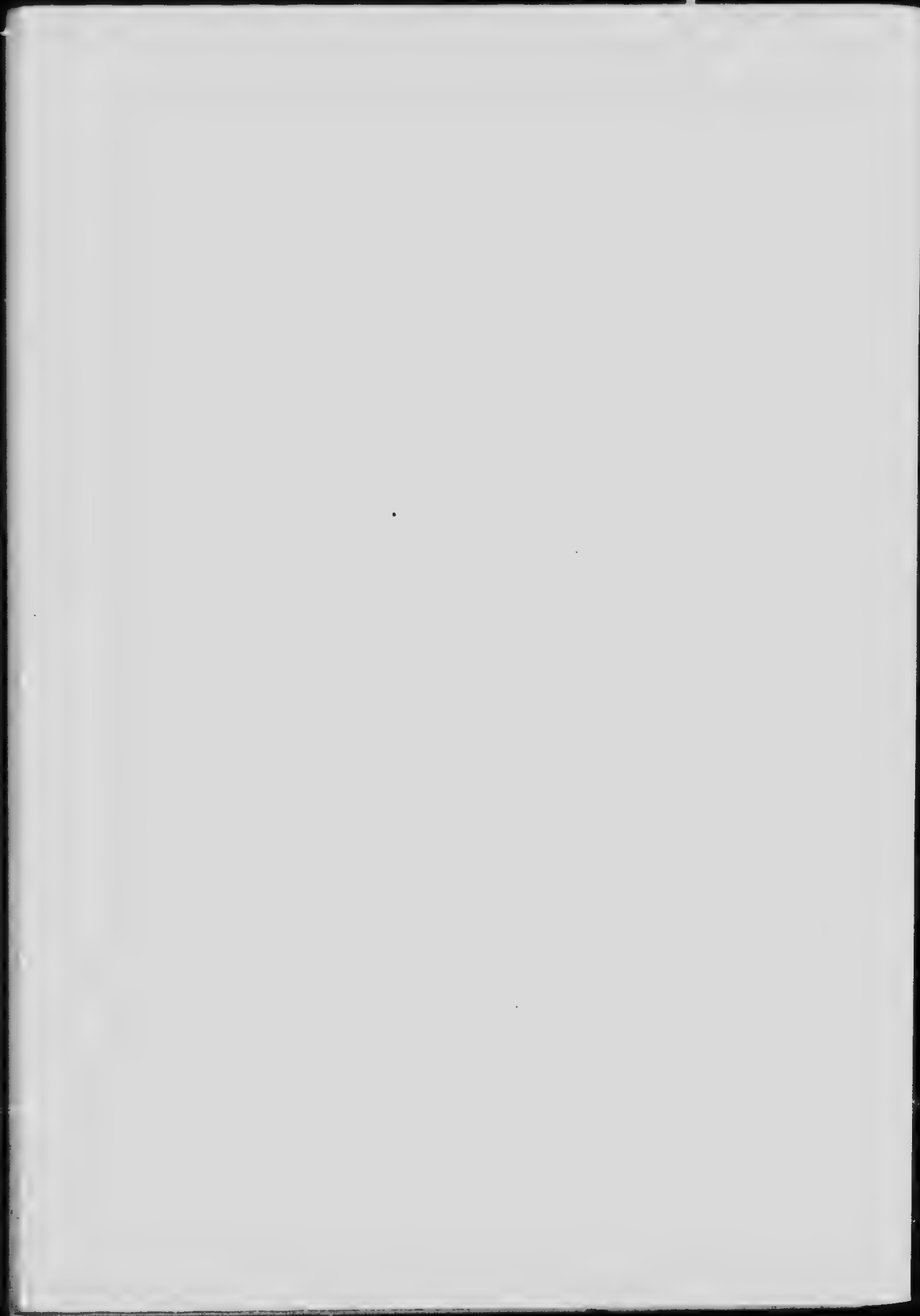
- 13.** German War-time Bread. Portion represents a half day's ration for Prisoner of War.
- 14.** Venereal Prophylactic Tubes (Calomel Ointment and Argyrol).
- 15.** (German) Specimen Tubes.
- (1) Urine.
 - (2) Swab.
 - (3) Feces.
 - (4) Blood.
- 16.** German Splints.
- (1) Leg Splint (Black).
 - (2) Leg Splint (Aluminum finish).
 - (3) Thigh Splint.
 - (4) Wicker Castation Splint.
 - (5) Detachable Splint.
 - (6) Triangular Arm Splint.
- 17.** Talley Books for Sick and Wounded.
- 18.** Field Dressings.

SECTION I.

RED CROSS FLAG SHOWING BULLET HOLES.

From No. X, Canadian Field Ambulance, Harts River, South Africa, 1902.

Exhibit by Canadian War Office.



PART II.
ANNOUNCEMENT OF OTHER
EXHIBITS.

EXHIBIT 1.

(In Assembly Hall.)

Oil Painting. Presented to McGill University on the occasion of this Congress.

By Charles de Belle.

"In Flanders Fields the poppies grow
Between the crosses, row on row
That mark our place. And, in the sky,
The larks, still bravely singing fly
Scarce heard amid the guns below.

We are the dead. Short time ago
We lived, felt dawn, saw sunset glow,
Loved and were loved. And now, we lie
In Flanders Fields.

Take up our quarrel with the foe,
To you from failing hands we throw
The torch. Be yours to hold it high
If ye break faith with us who die
We shall not sleep, though poppies blow
In Flanders fields."

PORTRAIT OF THE LATE LT.-COL. JOHN McCRAE.

Loaned by E. A. Archibald.

EXHIBIT 2.

(In Assembly Hall.)

SPHAGNUM MOSS SURGICAL DRESSINGS.

Exhibited by Professor J. B. Porter, McGill University.

These dressings, originally used as a substitute for absorbent cotton where this could not be had, proved to have special merits, such as absorbency, superior lightness, and ventilating qualities, etc., and were enormously used during the War.

The series shown includes specimens of raw and prepared moss of various grades, and the various stages of its preparation up to the finished dressing, also photographs showing methods of collecting and preparing it, and literature on the subject.

EXHIBIT 3.

INTERNATIONAL ASSOCIATION OF MEDICAL MUSEUMS.

CENTRAL BUREAU FOR PRESERVATION OF RESULTS OF MICROSCOPIC RESEARCH.

(In Assembly Hall.)

SERIES OF HISTORICAL PICTURES AND SLIDES ILLUSTRATING STUDIES ON THE CANCER PROBLEM.

**Exhibited by Professor A. Peyron, Director of Cancer Research,
École des Hautes Études, Paris.**

The illustrations include studies in embryology, systemic pathology and experimental work. The material is from the Pasteur Institute, and from Professor Hartmann's surgical service, Hotel Dieu, Paris.

1. Histological Technique.

Exhibit of microscopic slides showing metachondria in tumours and a special trichromic stain.

2 Embryology and Tumours of the Sacrococcygeal Region (Birds and Mammals.)

Pictures showing the presence of three kinds of embryonic vestiges which can give rise to tumours, namely, the neural tube and notochord,

whose vestiges are constantly found and the vestige of the postanal gut which is not always found.

They demonstrate:—

- (a) The neuroepithelial origin of tumours arising from the neural tube, which were wrongly considered by German authors to be peritheliomas of the coccygeal gland.
- (b) The chordomas of the coccygeal region, which are generally malignant, sometimes of traumatic origin.
- (c) The cysts and tumours of the postanal gut of which the origin is yet doubtful.
- (d) Pictures showing the exact nature and development of the coccygeal gland of Luschka, which, contrary to Kohn, is not a part of the chromaffinic system, but is a glomus of tissue closely allied to muscle.
- (e) Tumours of multiple tissues of the coccygeal region (emorymous, parasite foeti).

3. Embryomas.

Preparations showing constitution of embryomas, their mode of origin, especially the formation of placental chorionic tissue in ovarian and testicular new growths.

This study confirms the classic statements on placentomas, but shows more especially an analytical study of chorionic proliferation which leads to the conclusion that embryomas are derived directly from results of a parthenogenetic proliferation of the primitive genital cell.

4. Organoid Tumours of the Genital Glands.

Comparative embryology of ovary and testicle, now under study (in reptiles, birds and mammals), in relation to the comparative pathology of their tumours, has led to the conclusion that the embryoma is the only tumour arising from primitive genital cells, and that other tumours of genital glands are really derived from somatic tissues, i.e., from supporting cells of sertoli in testicle, and granulosa cells of ovary.

5. Uterine Tumours.

Comparative pathology of tumours of corpus uteri (especially tumours of rabbit).

6. Mixed Tumours.

(a) Preparations of mixed tumours of kidney and salivary glands (in the latter demonstrating the epithelial origin of connective tissue cells).

Supporting conclusions directly opposed to the classic ideas on the origin of mixed tumours by multiple blastemas, and showing that except certain groups of adenomyomas, etc., their origin is in reality from embryoma or from an epithelial rest undergoing secondary polymorphic evolution.

(b) Demonstration of epithelial origin of oviform bodies in cylindroma of face.

7. Tumours of Paraganglions and Suprarenals.

Pictures showing embryology of the chromaffine and suprarena systems and tumours derived from them.

(a) Embryonic type, parasymphoma.

(b) **Adult tumours**, paraganglioma.

Corticoadrenaloma of adult and young individuals.

8. (a) Hypernephromas.

Pictures illustrating the error of the theory of the exclusive origin from suprarenal tissue.

(b) Tumours of accessory suprarenals.

9. Tumours of Notochordal Tissues, Showing their Special Structure and place in the Classification.

Transformations of notochordal epithelium into connective tissue shown in preparation from comparative embryology and in chordosarcomas.

10. Tumours of Pigmentary System.

Pictures showing epithelial origin of melanoma of skin of man (embryonic chromatophoroma) as contrasted with melanoma of horse (adult chromatophoroma) which is of connective tissue origin.

11. Experimental Cancer.

(a) Pictures showing first graft of carcinoma obtained in rabbit (tumour of testicle with diffuse metastases in second generation). (Paine and Peyron).

(b) Experimental infectious sarcoma of fowl. Pictures showing its mode of origin by filtrable virus, its first histological stages and the direct influence of extirpation of the graft upon development of metastases.

EXHIBIT 4.

(In Museum.)

**FROM THE PATHOLOGICAL LABORATORIES OF THE ROYAL
VICTORIA HOSPITAL AND MCGILL UNIVERSITY.**

**EXPERIMENTAL STUDIES ON THE BLOOD-SUPPLY OF THE
HEART.**

By Louis Gross, M.D

A Series of Pictures, Stereoscopic Radiograms and Cleared Preparations demonstrating the distribution of the coronary vessels by the Barium injection method.

(a) Enlarged picture of radiogram of coronary blood supply, with cross section of heart for comparison.

Made by D. Morgan, M.D.

EXHIBIT 5.

OSLER HISTORICAL COLLECTION

SECTION A.

(In Medical Library.)

**COLLECTION OF RARE EDITIONS, DIPLOMAS, PICTURES
AND DONARIA, presented during his life-time to the
Medical Library by the late Sir William Osler.**

Exhibited by Jean Cameron, Assistant Librarian.

SECTION B.

(In Museum.)

**MOMENTOES AND RECORDS OF SIR WILLIAM OSLER'S
CANADIAN PERIOD.**

Norman B. Gwyn, M.D., and Maude E. Abbott, M.D.

This series consists of pictures, portraits, letters and note-books from the childhood, youth, student and early professional life of the great Canadian physician.

SIR WILLIAM OSLER'S CANADIAN PATHOLOGICAL COLLECTION WITH ITS BIBLIOGRAPHY.

Maude E. Abbott, M.D.

This Collection comprises some one hundred and fifty specimens in good preservation, obtained at the Montreal General Hospital during Dr. Osler's service there as Pathologist (1877-1885.) Only the most representative are displayed on the exhibition tables, the remainder are to be seen fully labelled on the adjacent shelves. The Collection is in itself a small Museum, including lesions of all organs; as especially interesting in relation to his later work are to be mentioned the cases of gastric ulcer and cancer, the large collection of aneurysms, and the beautiful series of malignant endocarditis which formed the subject of his Goulstonian Lectures of 1885. Almost all have been published, and many have been made the subject of extensive researches. Wherever possible, the corresponding article is displayed with the specimen. The Autopsy-book of the Montreal General Hospital for 1871, entirely written in Dr. Osler's own hand, is also on view, together with the volumes edited or published by him during his Montreal period.

In the light of this literature these specimens are seen to be the visible and tangible records of those early researches in gross and microscopic pathology, through which William Osler, as the student of Virchow and Rokitansky, and a pathfinder in the same field, hewed his way to that broad knowledge of the manifestations of disease that made him a Master of Medicine and the greatest clinical teacher of his time.

(a) **Holmes Heart.** As a side-exhibit are shown here other specimens of interest in relation to the early history of McGill, which were often demonstrated by Dr. Osler in his lectures here, and which have been preserved from oblivion by his repeated mention of them in his Practice of Medicine, or elsewhere. Of these the most important is a remarkable case of Cor Biatrîatrum Triloculare, of a type unique in the literature, which was obtained by Dr. Andrew Holmes, first Dean of the Faculty, at an autopsy done by him in the presence of the other three Founders of the School in 1823, the year of its organization, and which was reported in full by him with fine copper plate engraving (also exhibited) in the Edinburgh Medico-Chirurgical Transactions for the year 1824.

EXHIBIT 6.

PATHOLOGICAL SERIES.

(In Museum.)

A.

SPECIMENS ILLUSTRATING OBSTRUCTION OF THE ALIMENTARY TRACT.

By H. N. Segall, M.D.

A series of seventy specimens arranged in the order of the Museum Classification.

B.

SPECIMENS OF GENERAL SURGICAL INTEREST.

By W. W. Beattie, M.D

Series showing sequestrum formation, tumours, vascular lesions, etc.